Monthly Progress Report
Corrective Measures Study (CMS) for Potential Release Site (PRS) 16-021(c)
February 2001

This report summarizes Los Alamos National Laboratory (LANL) activities completed during February of fiscal year (FY) 2001 on the CMS for PRS 16-021(c), the 260 outfall. Both the activities described in the CMS plan (LA-UR-98-3918), which was submitted to the New Mexico Environment Department-Hazardous Waste Bureau [NMED-HWB] on 9/30/98, and approved by NMED-HWB on 9/8/99, and other related activities are described herein.

Description of Activities and Contacts

High Performing Team (HPT) Activities – The combined 260 and ecorisk HPTs met on February 1, 2001.

LANL representatives provided an update on January activities including the hydrogeologic studies, the bench and pilot studies, and the IM investigations. LANL representatives noted that the start of the CdV-R-37-2 well was probably going to be rescheduled for late FY 01. Details are provided below in the sections of this monthly report covering these studies.

NMED-HWB representatives provided a verbal approval of the sampling reductions that were discussed at the December and January HPT meetings and on which LANL supplied formal letters in the last two months, and noted that formal approval letters were forthcoming. However, rather than completely eliminating the quarterly uranium and extended HE analyses, NMED-HWB requested that these analyses be continued on an annual basis. LANL representatives noted that they would attempt to find commercial labs that could analyze for the RDX degradation products mono-nitroso-RDX (MNX), di-nitroso-RDX (DNX) and tri-nitroso-RDX (TNX) as these have been detected at Pantex.

The majority of the HPT meeting was spent discussing ecological risk activities for Canon de Valle. LANL representatives presented: 1) an overview of the ecological risk process; 2) background information on Canon de Valle; and 3) a study design for proceeding with ecological risk assessment activities in Canon de Valle. The study design focuses on small mammal sampling in Canon de Valle and a reference canyon. NMED agreed with the overall study design and suggested that LANL could proceed with detailed design of the study. Issues of concern for NMED included:

- Justification of the elimination of metal COPECs prior to biota sampling. It was noted by LANL that full suite metal analyses would be used that included most of these constituents.
- Preference for the use of Pajarito Canyon rather than Water Canyon as the reference canyon because its topography and hydrology are likely to provide a better analog to

Canon de Valle. LANL will evaluate this option during the reconnaissance phase of the study.

- Development of a contingency approach if the Fish and Wildlife studies of aquatic biota do not provide adequate data for the aquatic system. LANL will evaluate these data in the coming months.
- Evaluation of bats as a potential receptor. LANL ESH-20 personnel will report back on the status of ongoing bat studies.
- Initiation of NMED review of the Ecorisk Database (Sept 2000 version) in support of toxicological data needed for a 260/Canon de Valle ecological risk analysis.

Handouts were provided that present more detail on these topics.

LANL representatives noted that the 260 HPT would be presenting at the March 1, 2001, ER colloquium. NMED representatives will discuss HPT activities, Jim Phelan (of Sandia National Laboratory) will discuss the ITRD program, and LANL representatives will discuss Pantex groundwater issues and HE treatment technologies.

The next meeting is scheduled for Monday March 5, 2001. Agenda items will include Pantex groundwater, ecological risk, temporary authorization, and waste disposal options for the Interim Measure.

RCRA Facility Investigation (RFI) Report and CMS Plan– No new activities occurred during this reporting period.

Best Management Practices (BMPs)– BMPs are being inspected quarterly and following significant precipitation events inasmuch as IM fieldwork, including site restoration, is complete except for finalization of the zero-discharge dam. No BMP repairs were required this month.

CMS Hydrogeologic Investigations–CMS hydrogeologic investigations include ongoing Phase II RFI sampling as well as continuing investigations outlined in the CMS plan.

The ongoing Phase II RFI sampling program included collecting samples at SWSC, Martin, and Burning Ground springs every other day for stable isotopes. Data from the spring and well dataloggers were downloaded monthly. The flow in the springs and in Cañon de Valle increased at the end of the month, where the sampling locations weren't frozen, during February. Martin Spring and Martin Spring Canyon are showing a particularly strong increase in flow.

The wells, both alluvial and deep, were checked monthly for both presence and level of water. All five of the alluvial wells in Canon de Valle and the three alluvial wells in Martin spring canyon contained water. The intermediate-depth borehole at the head of Martin Canyon contains water. One set of weekly flow-integrated samples were collected and submitted for laboratory analysis.

In February, 5 samples from precipitation events were collected and archived for analysis.

Ecological Risk Pilot–

A meeting with ESH-20 personnel was conducted to discuss implementation of the ecological risk field studies. A draft implementation plan for the ecological field work was completed.

CMS Bench and Pilot Studies–Bench and pilot studies continued in collaboration with the Innovative Treatment Remediation Demonstration (ITRD) Program. The ITRD HE program is focused on two DOE sites, LANL and Pantex. Studies include:

1. A study of the passive barrier technology of Stormwater Management, Inc., which is potentially useful for removing HE and barium from waters.
2. A study of chemical treatment of HE-contaminated soil using zero-valent iron (ZVI). The LANL portion of this study has been completed.
3. A study of in situ anaerobic bioremediation of HE using gas-phase carbon additions.
4. A study of ex situ anaerobic bioremediation of HE-contaminated soils using the W. R. Grace process, which combines anaerobic bioremediation with a ZVI treatment. The LANL portion of this study has been completed.
5. A study of HE composting. Amendments appropriate to northern New Mexico were tested on both clean and contaminated soils. The LANL portion of this study has been completed.
6. A study of immobilization of barium-contaminated sediments from Cañon de Valle.
7. Phytoremediation studies in Cañon de Valle.
8. Oxidation, reduction, and in-situ bioremediation studies of groundwater contamination at Pantex.

An engineering review of the Stormwater Management design was completed. A few modifications will be made, including increasing pipe diameters to prevent plugging and fouling. Results of bench and pilot studies were reviewed for presentation at the ER colloquium.

***Interim Measure* (IM)** –

Activities at the TA-16-260 IM were limited. Site restoration activities are complete except for capping of the zero discharge dam. This activity will be completed following spring snowmelt.

The interim measures report was continued by the field work contractor.

Public and Stakeholder Involvement– No activities during this reporting period.

Percentage of CMS Completed

LANL estimates 72 % of the CMS has been completed to date. Note that this percentage does not reflect the deep wells that will be drilled per the CMS plan addendum.

Problems Encountered/Actions to Rectify Problems

General Problem (1) The Cerro Grande fire has severely impacted the 260 RFI/CMS activities. These problems have been discussed in detail in previous monthly reports.

Action to Rectify General Problem (1): LANL will work closely with NMED through the HPT to mitigate the effects of the Cerro Grande fire.

CMS Hydrogeologic Investigations

Problem (1): Questions relating to the quality of data from well R-25 remain a concern to the TA-16-260 team.

Action to Rectify Problem (1): LANL will evaluate the data from the quarterly sampling of the R-25 well to evaluate its reliability.

CMS Bench and Pilot Studies

None.

IM

None.

Key Personnel Issues

Lynn Kidman, subcontractor project manager for the IM Project, has transferred to the Nevada Test Site ER program.

Projected Work for March 2001

RFI Report and CMS Plan

- No work is scheduled for this month.

BMPs

- Inspection of existing BMPs following significant precipitation events will continue.

CMS Hydrogeologic Investigations

- Maintenance of autosamplers
- Checking for levels and presence of water in alluvial and deep wells.
- Sampling of flow-integrated autosamplers
- Continued precipitation monitoring and sampling for stable isotopes.
- Data analysis
- Update of site-specific health and safety plan for hydrogeologic activities
- Stream profiling in Martin Spring Canyon

Ecological Risk Pilot

- Preparations for the ecological risk field study will continue.

CMS Bench and Pilot Studies

- Preparation for deployment of Stormwater Management units
- Completion of site-specific health and safety plan for Stormwater Management unit deployment

IM

- Data analysis and writing of IM Report
- Waste management, evaluation of waste data

Public and Stakeholder Involvement

No activities planned.